the Southwest ECONOMY

FEDERAL RESERVE BANK OF DALLAS ISSUE 1 – 1995

The Peso Devaluation's Impact on Texas

"Texas' economy should continue to expand in 1995, but the peso devaluation will slow the state's growth."

Texas' close economic ties with Mexico will make the impact of the peso's plunge much stronger here than in other parts of the United States.

In the six weeks between December 20, 1994, and February 1, 1995, the Mexican peso lost roughly 40 percent of its value. This dramatic devaluation should have few long-term effects on the level of U.S. employment, but it could have a substantial influence on the kinds of jobs people do and where they do them. Nowhere will these shifts be more evident than in Texas.

Texas Effects

The short-term impact of the peso devaluation could be four times stronger in Texas than in the rest of the United States. One-third of U.S. exports to Mexico come from Texas. As Texas' largest foreign trading partner, Mexico plays a greater role in the Texas economy than in the U.S. economy. Excluding trade with Mexican maquiladora plants, Mexico receives 27 percent of Texas' merchandise exports, compared with 6 percent of U.S. merchandise exports.[1] Exports to Mexico represent nearly 2 percent of Texas output but less than 0.5 percent of U.S. output.

A 40-percent devaluation and its multiplier effects could cost approximately 1 percent of the state's total employment, or about 75,000 jobs, over the next three years. Because the state has been gaining employment at an annual rate of 240,000 jobs per year, such a loss represents about four month's worth of growth.

Texas' economy should continue to expand in 1995, but the peso devaluation will slow the state's growth. Before the devaluation, Texas employment was predicted to grow around 2.8 percent in 1995. With a 40-percent devaluation of the peso, growth near 2.5 percent is more likely.

As the effects of the peso devaluation ripple through the Texas economy, some industries will feel a much greater impact than others. The devaluation makes Texas exports —sold in dollars—more expensive in pesos and Mexican imports—sold in pesos—relatively cheaper in dollars.

In the near term, Mexico's demand for Texas goods and services may drop, which will mean production cutbacks for Texas industries that are sensitive to peso–dollar exchange rate fluctuations.

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Other Texas firms may lose business to Mexican imports, while Texas industries that import goods and services from Mexico will benefit from relatively cheaper prices of Mexican products.

Along the U.S.–Mexico border, businesses are seeing less cross-border shopping and tourism because of the peso's loss of buying power. The devaluation's effect on retailing, health care, tourism and other service industries is difficult to quantify because statisticians do not measure international trade in services at the state level. Figures on merchandise exports, however, can help predict how the devaluation will affect specific manufacturing industries in Texas.

Peso-Sensitive Industries

Furniture manufacturers, car makers and electronics firms will be the Texas industries hardest hit by the devaluation, according to a Federal Reserve Bank of Dallas index that measures the sensitivity of manufacturing industries to devaluations of the peso.[2] Table 1 ranks Texas manufacturing industries according to their peso-sensitivity and shows the dollar volume of their exports to Mexico. The table reflects trade and production patterns for 1993. Because of their special import–export status, maquiladora products are excluded.

Texas furniture and fixtures manufacturing is the state's most peso-sensitive industry because two-thirds of its total sales to foreign countries go to Mexico. Roughly 30 percent of Texas' exports of electronics and transportation equipment goes to Mexico.

Among the less-sensitive manufacturing categories are industrial machinery (including computer equipment), petroleum and coal products, textile mill products, and printing and publishing. Firms in these industries send a relatively small share of their total exports to Mexico. For instance, once exports to maquiladoras are excluded, the Texas industrial machinery industry sends only 12 percent of its exports to Mexico.

Table 1
Texas Industries' Sensitivity to Changes in the Value of the Mexican peso

	Peso Sensitivity	Exports* (millions of dollars)
Furniture and fixtures	.988	$ 160.04
Transportation equipment	.922	965.11
Electronics and electric equipment	.811	1,543.58
Leather and leather products	.699	61.17
Apparel and other textile products	.628	156.02
Miscellaneous manufacturing industries	.610	134.70
Lumber and wood products	.609	134.28
Fabricated metal products	.504	319.16
Primary metal industries	.482	463.11
Stone, clay and glass products	.455	50.79
Rubber and miscellaneous plastics products	.413	283.75
Food and tobacco	.379	996.51
Paper and allied products	.351	454.75
Instruments and related products	.326	228.69
Chemicals and allied products	.228	665.38
Printing and publishing	.203	54.85
Industrial machinery (including computer equipment)	.173	934.31
Petroleum and coal products	.145	391.42
Textile mill products	.124	83.08
All manufacturing	.389	8,080.68

* These estimates of 1993 exports by industry exclude exports to Mexican maquiladora firms.

Conclusion

Some analysts who considered the peso to be overvalued before the devaluation now think Mexico's currency is undervalued. If so, then the peso should recover some of the ground it has lost over recent weeks. Any improvement in the value of the peso would reduce the magnitude of the devaluation's effects but not their distribution. Peso-sensitive industries and the border region would still bear the brunt of production cutbacks and job losses.

—Lori L. Taylor
Rhonda Harris

Notes

[1] These estimates reflect an adjustment for exports to Mexican maquiladora plants. We exclude exports to maquiladoras from the export data because those goods are only exported to Mexico temporarily. Under a typical maquiladora's production-sharing agreement, goods enter Mexico duty-free and ultimately return to the United States duty-free (the United States charges a duty only on the non-U.S. content of the products). We also exclude the U.S. content of imports from maquiladoras from the import data that are used in the analysis.

In 1993, the most recent year for which we have complete information, U.S. exports to Mexico totaled $41.6 billion, of which the Mexican government considered $15.9 billion to be exports to maquiladoras. To derive Texas exports to maquiladoras, we assume that Texas exports to maquiladoras in each industry are proportional to U.S. exports to maquiladoras for that industry. Thus, if maquiladora exports represent 10 percent of U.S. exports in a given industry, we assume that maquiladora exports represent 10 percent of Texas exports in that industry.

[2] Lori L. Taylor developed this index, using work by W. Michael Cox and John K. Hill in "Effects of the Lower Dollar on U.S. Manufacturing: Industry and State Comparisons," Federal Reserve Bank of Dallas *Economic Review*, March 1988. A technical appendix detailing her modifications to the Cox–Hill analysis is available from the authors.

Inflation and Monetary Restraint: Too Little, Too Late?

After five years of declining interest rates, the Federal Reserve began to increase the federal funds rate in early February 1994 with the goal of alleviating potential inflationary pressures. Somewhat surprisingly, the bond-market reaction was negative: long-term bond yields increased 50 basis points over the next four weeks. At that time, market analysts attributed much of the run-up in yields to worries that inflation would increase during the next year and erode the value of bonds.

The bond-market reaction to the Federal Reserve's move to tighten monetary policy was disappointing from a central banker's perspective. After all, the Federal Reserve tightened monetary policy with the explicit aim of moving early enough to ensure that the economy would not overheat and generate inflation. What prompted bond markets to react the way they did?

History may provide the answer. Chart 1 plots the federal funds rate and the inflation rate, as measured by the gross domestic product deflator, over the period 1960–93. From Chart 1, it appears that the federal funds rate and inflation move together. That is, when the federal funds rate increases, inflation rises as well. Perhaps even more perplexing is that the correlation between the federal funds rate and *subsequent* inflation is positive (*Table 1*). This correlation appears to suggest that when the Federal Reserve moves to tighten monetary policy by raising the federal funds rate, inflation rises!

Note also from Table 1 and Chart 1 that this positive correlation between inflation and the federal funds rate seems to have diminished, beginning in the early 1980s. The weakened correlation offers more evidence with which to evaluate the relationship between inflation and monetary restraint. It suggests that either the economy's reaction to monetary policy has changed, or the conduct of monetary policy itself has changed in aspects such as policy timing or magnitude.

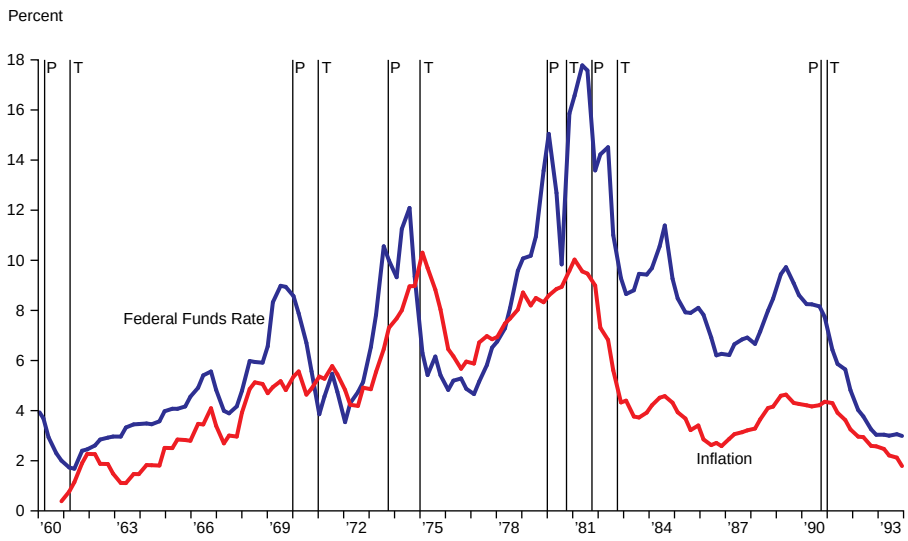
Table 1
Correlation Between Federal Funds Rate and Subsequent Inflation*

Sample:	
1960:1–93:4	.26
1960:1–79:3	.75
1982:4–93:4	.09

* This correlation is obtained from a regression of the funds rate on subsequent inflation. The correlation for the 1982:4–93:4 is not statistically different from zero. (See the Emery–Balke article in note 1 for further details.)

Subsequent inflation equals the average annualized rate of inflation over the subsequent eight quarters.

Chart 1
Federal Funds Rate and Inflation



NOTE: P and T are business-cycle peaks and troughs.
SOURCE: Board of Governors, Federal Reserve System.

The Price Puzzle

Why did inflation increase following tightenings of monetary policy in the 1960s and 1970s, and why did this pattern begin to diminish in the early 1980s?

The positive correlation between the federal funds rate and subsequent inflation, or *price puzzle*, poses a conundrum for traditional macroeconomic theory and monetary practice. According to conventional theory, a tightening of monetary policy, by slowing the growth rate of money and raising short-term interest rates, should result in a decline in the demand for goods and services in the economy and, hence, lead to a reduction in the inflation rate. Typically, a tightening of monetary policy is implemented through an increase in the federal funds rate.

There are two alternative explanations of the so-called price puzzle—one consistent with traditional beliefs about the effect of monetary contractions, the other inconsistent with traditional beliefs. We call the nontraditional theory a *cost–push* explanation. In short, the cost–push

explanation says that a rise in the federal funds rate boosts the interest-rate costs of some firms. These increases, in turn, are passed onto consumers in the form of higher prices. Thus, a hike in the federal funds rate causes inflation to rise. Although traditional theories about the effect of contractionary monetary policy might allow such cost–push effects, these are typically believed to be small, temporary and swamped by the negative aggregate demand consequences of a monetary contraction. Still, some observers see the positive correlation in Chart 1 as evidence that higher interest rates are a fundamental cause of higher inflation.

The second explanation, consistent with traditional economic theory, we term the *too-little, too-late Fed*. Here, a monetary tightening has the traditional effect: holding everything else constant, increases in the federal funds rate slow money growth and lessen the demand for goods and services. As a result, inflationary pressures subside. The price puzzle arises because the Federal Reserve has information about building inflationary pressures—such as excessive output growth, low unemployment rates and rising commodity prices—and increases the funds rate before inflation begins to increase. However, the federal funds rate is not raised sufficiently, or soon enough, to prevent actual inflation from increasing. The end result is that inflation increases even after the federal funds rate increases—not because the rate increased but because it did not increase enough! Of course, had the Federal Reserve not moved to tighten, inflation would have been even higher.

Distinguishing between these two explanations is important for both investors and policymakers. If higher interest rates were a cause of rising inflation, policymakers at the Federal Reserve would need to reevaluate their anti-inflation policies. Additionally, with a clearer understanding of the links between monetary restraint and inflation, both investors and policymakers would be able to make better informed decisions.

Solving the Puzzle

To determine which of these two alternative explanations is, in fact, correct, one must strip out the *systematic* response of the federal funds rate to other economic developments. For example, the Federal Reserve systematically tightens policy in response to higher inflation signals and systematically loosens policy during recessions. These systematic responses make it difficult to determine the independent, or *exogenous*, effects of federal funds rate increases. By examining the response of prices to independent changes in the federal funds rate, we can determine which of the two explanations is more plausible. For the too-little, too-late Fed explanation, after accounting for the Federal Reserve's systematic response to signals of future inflation, a federal funds rate increase should be followed by the traditional response of a decline in prices. On the other hand, for the cost–push explanation, even after accounting for the systematic response of the federal funds rate, an increase in the federal funds rate should result in an increase in prices.

Using data from 1960–79, Chart 2 shows the price level's positive response to an increase in the funds rate (controlling for the Federal Reserve's systematic reaction to past movements in output, inflation and the federal funds rate).[1] In Chart 2, we see evidence that prices still increase after a hike in the federal funds rate. This evidence seems to support the cost–push explanation.

Chart 2
Response of Prices
To Federal Funds Rate Shock

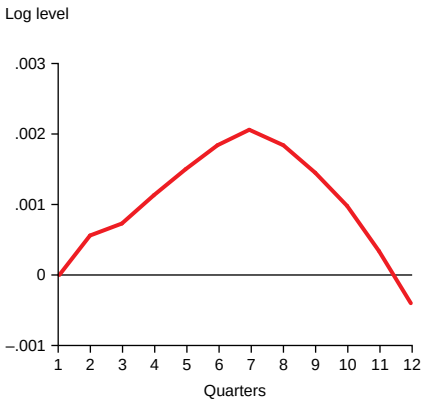
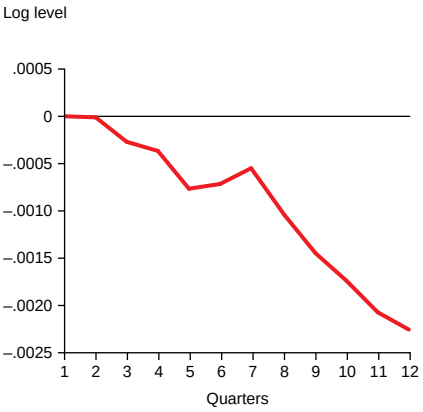


Chart 3
Response of Prices
To Federal Funds Rate Shock
(Commodity Prices and Spread Included)



However, the Federal Reserve may have additional information about building inflationary pressures—information not captured in just the past movements of output, inflation and the federal funds rate. If such were the case, the unsystematic or exogenous component of the funds rate would be mismeasured because it would not take into account that the Federal Reserve systematically responds to this other information. Indeed, variables such as commodity prices and interest-rate spreads have been shown to contain information about future inflation and are monitored by the Federal Reserve. Chart 3 shows that an increase in the federal funds rate results in a *decline* in prices after accounting for the systematic response of the federal funds rate to these additional indicators of future inflation. This evidence is consistent with the conventional view of monetary effects and inconsistent with the cost–push explanation.

Thus, the evidence suggests that during the 1960s and 1970s the Federal Reserve would tighten

policy in response to building inflationary pressures but not by enough, or early enough, to prevent inflation from actually increasing. Of course, if the Federal Reserve had not tightened policy, inflation would have increased even more. Evidence also suggests that, while federal funds rate increases may increase borrowing costs and cause upward pressure on some prices, the net effect of funds rate hikes on prices is negative, supporting the traditional view of monetary policy's effects.

Monetary Policy Since the Early 1980s

Returning to Chart 1, it also appears that the positive correlation between the funds rate and inflation weakened somewhat during the 1980s. Indeed, the regression results presented in Table 1 confirm that there is almost no relationship between the funds rate and subsequent inflation for the 1983–93 period. For some reason, then, monetary policy tightening has not been associated with subsequently higher inflation since the early 1980s.[2]

What accounts for this change? One possible explanation consistent with traditional theory is that the Federal Reserve has been more determined to control inflation in the 1980s and 1990s. Indeed, since the disinflation engineered by the Federal Reserve in the early 1980s, the Federal Reserve has more forcefully emphasized its commitment to achieving price stability.[3]

On a tactical level, policy has shifted toward increasing the federal funds rate earlier, before inflationary pressures build, and by a sufficient amount to keep actual inflation from rising.[4] Because the Federal Reserve has successfully tightened monetary policy, inflation does not increase. And the funds rate–inflation correlation disappears.

An alternative explanation for the lack of a price puzzle in the 1980s may be that Federal Reserve policymakers have not had to confront the same types of economic shocks they faced during the 1970s. During the 1970s, for example, the U.S. economy was hit with several large oil price shocks. Oil price shocks and, more generally, negative supply shocks present policymakers with a difficult choice because such shocks lead to lower output and higher inflation. How should monetary policymakers respond? Should policy be tightened to prevent inflation from rising or loosened to prevent output from falling? Evidence suggests that the Federal Reserve faced these difficult situations by raising the federal funds rate but not by enough to keep inflation from rising.

During the 1980s and early 1990s, it may simply be the case that there have been few negative supply shocks. Such an environment may have made it easier for the Federal Reserve to focus on its inflation-fighting objectives. In other words, the Federal Reserve's increased commitment to price stability may not have yet been tested, leaving open the question of how the Federal Reserve will respond when decisions get tough.

Conclusions

In the past, hikes in the federal funds rate have often been followed by increases in inflation. This positive correlation presents a paradox —a so-called price puzzle—because it is inconsistent with traditional macroeconomic theory, which predicts that inflation will fall in response to a monetary policy tightening. While the price puzzle is particularly evident for the 1960s and 1970s, in the 1980s and 1990s the response of inflation to the federal funds rate has been close to zero.

The evidence cited here suggests that there is a simple explanation for these phenomena. Historically, the Federal Reserve has increased the federal funds rate in anticipation of inflation. Unfortunately, it has sometimes failed to increase the funds rate by enough to prevent inflation from actually rising. Simply put, past monetary restraint has been too little, too late. Evidence that the price puzzle has diminished since the early 1980s suggests that the Federal Reserve is now more successful in anticipating and reacting to inflationary pressures.

—Nathan S. Balke
Kenneth M. Emery

Notes

[1] The model is a simple vector autoregression. (For further details see Nathan S. Balke and Kenneth M. Emery, "Understanding the Price Puzzle," Federal Reserve Bank of Dallas *Economic Review*, Fourth Quarter 1994.) The results indicate that the Federal Reserve systematically increases the funds rate in response to unexpected jumps in output or the price level.

[2] On the other hand, inflation does not fall when the federal funds rate increases, as traditional theory would predict. Again, though, once we control for the systematic response of the federal funds rate to commodity price and interest-rate spread changes, prices decline in response to a hike in the federal funds rate.

[3] The Federal Reserve's rationale for this increased commitment is the view that high rates of inflation during the 1970s significantly damaged the U.S. economy.

[4] One valuable lesson of the 1970s was that monetary policy, if it is to be used successfully to prevent inflation from rising, must be tightened long before inflation pressures build. In other words, it must be successful at taking away the punch bowl before the party gets out of hand.

Is the Southwest Lending Boom Too Much of a Good Thing?

"Those that cannot remember the past are condemned to repeat it."
—George Santayana

The lending recovery in the Federal Reserve's Eleventh District, while celebrated by most, to some signals trouble ahead.[1] For some observers, the lending recovery rekindles memories of the mid-1980s boom that preceded the biggest wave of bank failures since the Great Depression. Bank failures in the 1980s, however, resulted not from loan growth but from a substantial decline in credit standards that netted huge loan losses when the regional economy fell into recession. In the current recovery, credit standards have eased somewhat but not to the dangerous levels of the past.

The Credit Cycle in the Southwest

Lending in the Eleventh District contracted sharply from 1985 through the early 1990s. The lending contraction, called a *credit crunch*, coincided with the severe regional recession that ran from 1985 to 1987 and the toughest years of the banking crisis—1988 through 1990 (Clair and Tucker 1993). The banking crisis forced District bankers to impose strict underwriting standards and retrench lending operations until their banks' financial condition improved. In many cases, even these efforts could not save banks from failure. The regional recession also lowered the creditworthiness of many would-be borrowers, and numerous business failures pushed some borrowers into default. Both loan supply from banks and loan demand from qualified borrowers were depressed.

Today, loan demand and supply in the Eleventh District have reversed their decline. The District's economy began to improve in 1987 and has since continued on an upward trend. A growing economy generates increased demand for credit. Because the general economic outlook is positive, borrowers look more creditworthy to lenders. In addition, District banks have regained their financial health, with 97 percent of banking assets held at healthy banks.[2] As banks grow stronger and more optimistic about their potential borrowers, they are returning to less severe underwriting standards, and lending is reverting to earlier levels to meet demand.

The credit crunch ended in 1992 when lending activity began to recover. By year-end 1992, the Eleventh District's large banks had begun to report increases in loans (*Chart 1*). By year-end 1993, the recovery had expanded to include small Eleventh District banks as well. During the first three quarters of 1994, District lending was increasing at an annual rate of 6.7 percent.

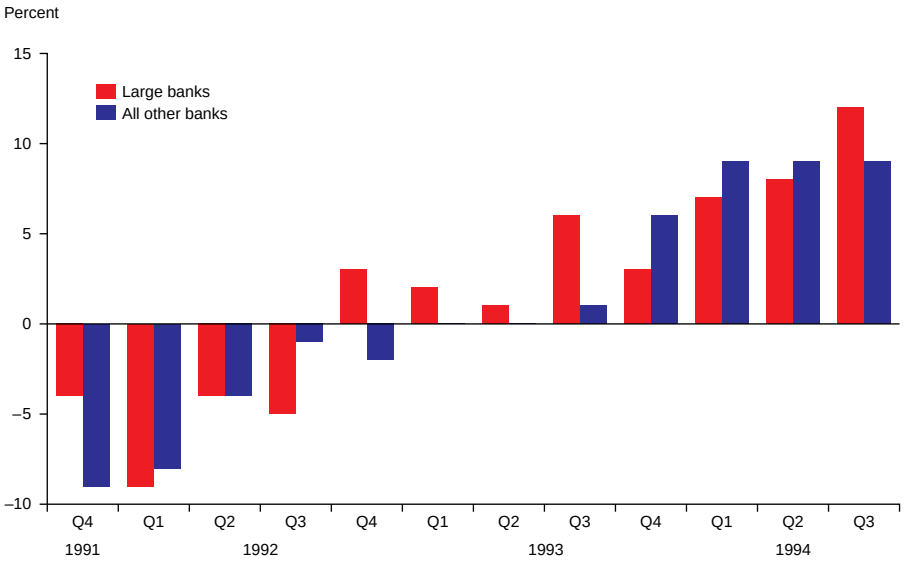
The business lending expansion came as a result of positive shifts in both supply and demand. What has happened in the Eleventh District mirrors what bankers reported in the nationwide Senior Loan Officer Opinion Survey on Bank Lending Practices (SLOOS), conducted by the Federal Reserve System. That survey reported that the demand for credit began to increase in the second quarter of 1992, and credit standards began to ease significantly by the third quarter of 1993. Demand went up as borrowers sought funds to finance inventory increases, to invest in new plants and equipment and to finance mergers and acquisitions.

Competition and Credit Quality

An alternative view is that loans are expanding because banks have lowered their credit standards in response to competitive pressures. Banker surveys indicate that competition among banks has been intense recently. This view, however, implicitly assumes that the demand for credit from qualified borrowers is constant or growing more slowly than loan supply. And, when faced with excess supply of loanable funds, banks lower their credit standards to unreasonable levels rather than invest the funds in other instruments.

The view that competition leads to ruinous credit standards can be ex-

Chart 1
Growth of Commercial Loans at Large and Other District Banks
(Year-over-year growth adjusted for mergers)



NOTE: Large banks adjusted for mergers.

plained as a *post hoc, ergo propter hoc* fallacy, which translates as "after this, necessarily because of this." Loan defaults do increase following periods of loan growth, but the two are not necessarily related. Lending follows the business cycle with a slight lag. Loan defaults are countercyclical, falling during expansions and rising during recessions. As a result, as the economy proceeds through a series of business cycles, observers of the banking industry see alternating periods of increased loan growth followed by increased loan defaults. They draw the conclusion that the loan growth was the cause of the loan defaults without proving the connection.

There is evidence to the contrary—that is, competition has not lowered credit quality. Banker surveys tell us that competition has lowered loan prices but not underwriting standards. Bank examiners report that they have not seen signs of relaxed loan standards. Finally, while some banking industry analysts are concerned about lower bank stock prices, their expectations are based on forecasts of lower profit margins and not expectations of higher loan losses.

Competition has lowered prices, not lowered credit standards. Nationwide, three times as many banks have cut their profit spreads as have cut their collateral requirements, and nearly twice as many were cutting their spreads as were easing their loan requirements, according to the August SLOOS (*Chart 2*).[3] In addition, surveys of business lending terms show that collateral requirements for short-term business loans are unchanged. Although some loan covenants and collateral requirements have eased, this easing has been less common and probably reflects a return to normal risk–return standards after the excessive tightening caused by the banking crisis.

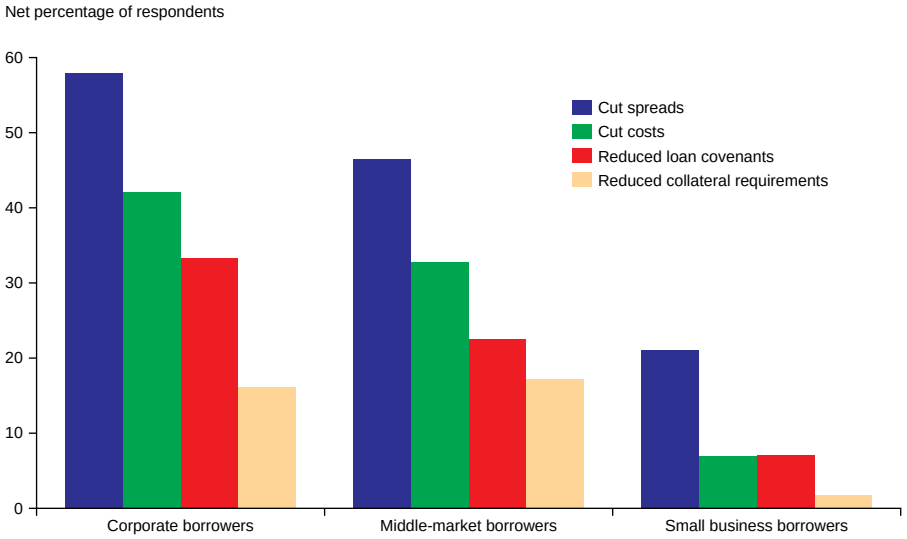
Although bank examinations are confidential, the Federal Deposit Insurance Corporation (FDIC) has substantially reduced its estimate of the number of problem banks. Since the end of 1991, the number of problem banks nationwide fell from 1,016 to 338 by mid-year 1994.[4] Within the Eleventh District, Federal Reserve bank examiners see no trend toward unsound banking practices among the 51 state-member banks they supervise.

Bank stock analysts at such firms as Dean Witter Reynolds, Smith

"Banker surveys tell us that competition has lowered loan prices but not underwriting standards."

"While recovering from the banking crisis, banks substantially improved their earnings by working off troubled assets and reducing loan losses."

Chart 2
Changes in Terms of Lending at Large U.S. Banks, August 1994



SOURCE: Senior Loan Officer Survey on Bank Lending Practices.

Barney, Salomon Brothers and Merrill Lynch do not cite credit quality issues as a reason for downgrading some large bank stocks. The analysts are worried about the effects of higher interest rates and banks' diminishing opportunities to improve their financial performance in the near term. While recovering from the banking crisis, banks substantially improved their earnings by working off troubled assets and reducing loan losses. Now balance sheets are clean and competition is picking up, leaving banks with narrower profit margins that will slow the growth of future bank profits.

Is Rapid Loan Growth a Problem In the Eleventh District?

Further empirical evidence shows that loan growth is related to deterioration in loan quality only under extreme conditions not currently apparent in the Eleventh District. Research (Clair 1992) shows that rapid growth leads to lower loan quality only if the following conditions are met:

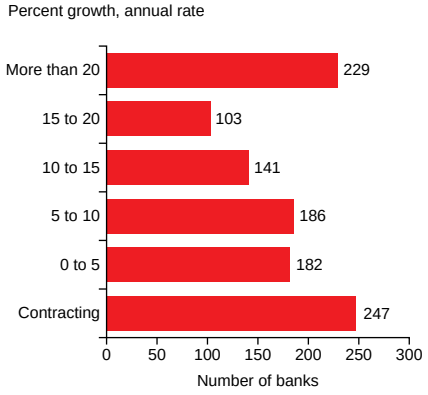
1. The banks had below-average capital ratios.
2. Loans were growing at least four times as fast as state personal income.
3. The increased lending was generated by heightened marketing to new and existing bank customers, called *internally generated lending*, and was not the result of mergers, acquisitions, loan purchases or asset transfers.

Historical data show that rapid growth by banks that met these three criteria experienced a small but statistically significant increase in loan chargeoffs after a three-year lag.

An analysis of current banking conditions in the Eleventh District finds that recent loan expansion does not fit these three criteria and should not cause concern. The rapidly growing banks in the Eleventh District are financially healthy. In addition, a great deal of the loan growth, especially at the largest District banks, is the result of mergers, acquisitions, loan purchases and asset transfers.

Only about one-fifth of banks in the Eleventh District are growing rapidly, and they are financially healthy. Chart 3 shows the distribution of banks by their loan growth rate from the fourth quarter of 1992 to the third quarter of 1994.[5] Only 229 banks grew at an annual rate in excess of 20 percent. By and large, the fastest growing banks are

Chart 3
Distribution of Eleventh District Banks by Loan Growth Rates, Fourth-Quarter 1992–Third-Quarter 1994*



* Excludes banks with more than $1 billion in total loans.

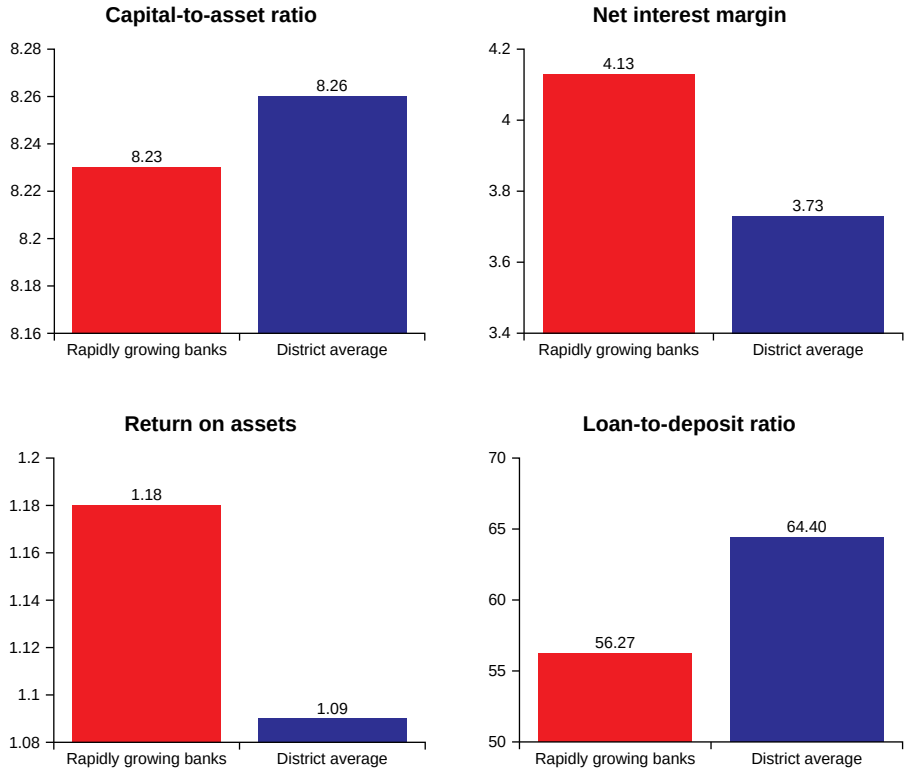
small and financially healthy (*Chart 4*). Furthermore, the expansion of their loan portfolios has been well-diversified across all major types of loans.

Analysis of the 10 largest District banks shows that loan growth has been primarily the result of acquisition. Historically, growth through acquisition is not correlated to declines in loan quality. After adjusting for acquisitions, mergers and net loan purchases, nine of the top 10 banks reported loan expansion generated through increased marketing efforts to new and existing customers of less than 20 percent. Only one large bank reported adjusted loan growth in excess of 20 percent, and it is a financially healthy bank.

A similar study of U.S. banks shows that banks with high-quality loan portfolios are the ones that are growing relatively faster and that banks with above-median growth rates have the greater reserves for absorbing loan losses (Klemme 1994). Among a sample of U.S. banks that were in existence from the first quarter of 1993 through the third quarter of 1994, those with the lowest troubled asset ratios reported higher loan growth. In addition, banks with relatively high loan growth have not reported any decrease in loan quality

"Historically, growth through acquisition is not correlated to declines in loan quality."

Chart 4
Rapidly Growing Banks in the Eleventh District Compared with District Averages, Second-Quarter 1994



"Vigilance in maintaining credit quality is necessary as the first line of defense against future banking crises."

and have a higher ratio of loan loss reserves to noncurrent loans.

Misplaced Concerns or Foresight?

There appears to be little reason to worry about the recovery in business loan demand in the near term. This conclusion is based on the sound financial condition of the rapidly expanding banks. Increased competition for new loans has decreased profit margins, but easing of underwriting terms has been modest. In general, there has been no widespread deterioration of credit standards or credit quality.

Why, then, are some prominent bankers—including Joseph May, the president of Robert Morris Associates, the professional society of commercial lenders—raising concerns about repeating the mistakes of the 1980s? They realize that inevitably, the economy will enter into a recession at some time in the future, causing some borrowers to default. They know that eventually, banks will experience the downside of another credit cycle. Bankers who lived through the last banking crisis want bankers to be ready to weather the next downturn without the turmoil experienced in the past decade.

Preserving the quality of the loan portfolio protects the bank, its shareholders, creditors and depositors from unanticipated losses resulting from borrowers' defaults. While worries about underwriting standards are premature in the current environment, business environments can change during the life of a loan, which is often a long-term commitment. Vigilance in maintaining credit quality is necessary as the first line of defense against future banking crises.

—Robert T. Clair

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Notes

[1] The Eleventh Federal Reserve District includes Texas, northern Louisiana and southern New Mexico.

[2] A healthy bank is defined as profitable, with troubled assets less than 3 percent of total assets and a capital ratio in excess of 6 percent.

[3] Eleventh District SLOOS results are not reported to maintain the confidentiality of the small sample of respondents.

[4] Unfortunately, Eleventh District data on the number of problem banks are unavailable.

[5] Banks with total loans of $1 billion or more have been dropped from this analysis because their extensive merger activity biases the data.

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Beyond the Border

The Roots of Mexico's Peso Crisis

The recent peso devaluation and volatility have unnerved international financial markets and raised questions about the viability of the Mexican economy. The key to understanding the crisis and the events that led up to it lies in understanding its roots in Mexico's economic reform, especially the Mexican exchange rate policy.

During the mid-1980s and well before the passage of the North American Free Trade Agreement (NAFTA), Mexico began a drive to become more competitive in international markets. Mexico liberalized rules on trade and foreign investment, privatized public firms and reduced unnecessary regulation. Although Mexico's transformation into a more open economy was by no means complete, the country had made significant strides toward freer markets.

As Mexico began to open markets, it also sought to curb inflation. The key element of its monetary policy was the use of the exchange rate as a nominal anchor—that is, Mexico would keep its domestic prices tethered to international prices by targeting the nominal exchange rate. During the initial stages of reform, the exchange rate was fixed to the dollar. Later, the exchange rate was held to a preannounced rate of daily depreciation. In 1991, the exchange rate was allowed to float within a widening band. At first, the top of the band rose 20 centavos (0.0002 new pesos) per dollar per day, then the band was increased to 40 centavos (0.0004 new pesos) per dollar per day (*Chart 1*).

By keeping the exchange rate closely tied to the dollar, especially during the early stages of reform, Mexico could keep exchange rate volatility low and give investors a simple means of monitoring Mexican monetary policy. If expected inflation was higher in Mexico than in the United States or prospects for growth weakened relative to those of the United States, investors' would take dollars from Mexico and seek better returns in the United States. This capital movement would lead to upward pressure on the exchange rate as people who held pesos bought U.S. dollars. If the exchange rate stayed within the band, Mexico would have to tighten monetary policy and increase interest rates to attract dollars back into the country. As long as the exchange rate policy remained credible and Mexico adhered to it, analysts could watch the movement of foreign reserves and anticipate what would happen to monetary policy.

Of course, exchange rate policy alone does not make low inflation credible. Low inflation is made credible only through low and stable monetary growth. Over the long run, monetary policy is what keeps exchange rate policy credible, not the other way around. If monetary policy is too loose and is inconsistent with maintaining the exchange rate, foreign reserves leave the country. Without any foreign reserves to defend the exchange rate, the exchange rate policy has to be abandoned.

From 1987 through 1993, Mexico's monetary policy had been consistent with low inflation and maintaining policymakers' exchange rate targets. Inflation fell from a high of nearly 160 percent in 1987 to around 7 percent in 1994. During 1994, however, political uncertainty in Mexico and rising interest rates in the United States created pressures that began to drain Mexican foreign reserves. Investors began to perceive increasing risks in the Mexican market, but returns were not increasing accordingly, so investors took their money elsewhere. Foreign reserves fell from around $25 billion at the end of 1993 to about $16 billion in July 1994 (*Chart 2*).

The election of President Ernesto Zedillo in August 1994 brought new confidence to Mexico's policies and boosted foreign reserves and the peso. Afterward, however, there were signs of investor uncertainty, and money began flowing out of Mexico again. Without dramatically higher interest rates, foreign reserves continued to leave the country. On December 20, under pressure from foreign exchange markets and with dwindling foreign exchange reserves, Mexico loosened its exchange rate band. The next day, after investor's made a run on the peso, Mexico abandoned the exchange rate band entirely.

If Mexico had increased interest rates after the 1994 presidential elections, perhaps the country could have avoided the lost credibility and higher short-run inflation caused by abandoning the exchange rate policy. But at the time, many analysts were predicting higher investor confidence and appreciation of the peso with the continuation of policies under the Zedillo administration.

Mexico might have avoided its exchange rate problems by letting the peso float after the elections. A floating exchange rate allows a country to weather domestic and international economic shocks without dramatic changes in domestic monetary policy and without casting doubt on the credibility of basic policies. Now that Mexico is floating its exchange rate, economic ups and downs will not generate speculation against any particular exchange rate policy. As long as monetary restraint continues, inflation—over the long run—will remain moderate.

— David M. Gould
William C. Gruben

CHART 1
Peso–Dollar Exchange Rate

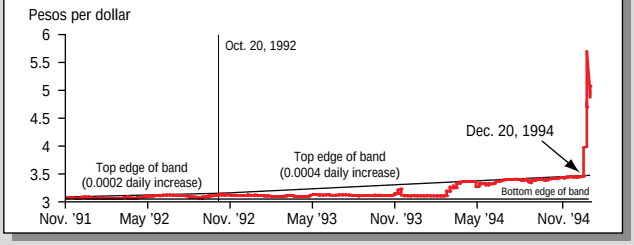
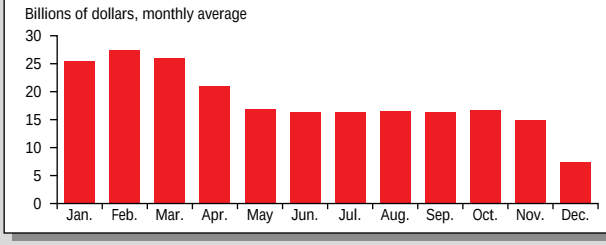


CHART 2
Mexico's Stock of Net International Reserves, 1994



SOURCE OF PRIMARY DATA: Banco de México.

Regional Update

Regional Update is a new feature that will appear in each issue of The Southwest Economy. *The section will identify current economic trends in the region and present highlights of data produced by the Federal Reserve Bank of Dallas. This issue explains several measures of economic activity that will appear regularly in this column.*

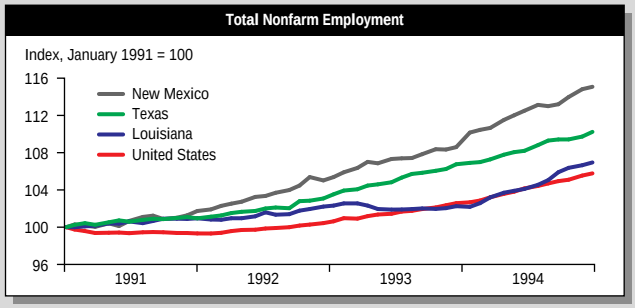
Nonfarm Employment. The broad coverage and timeliness of the nonfarm employment data make this one of the most relied upon economic series available at the regional level. The raw data are produced by state agencies in cooperation with the U.S. Bureau of Labor Statistics. The Dallas Fed performs several adjustments to the data to reduce the impact of annual revisions and increase the data's reliability.

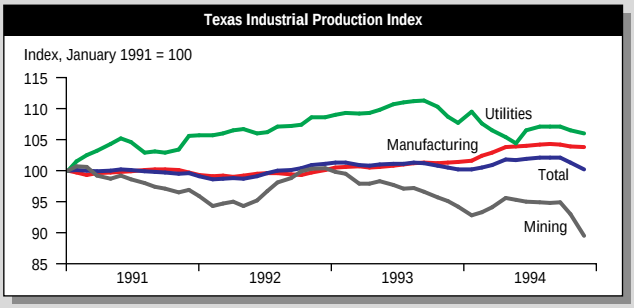
TIPI. The Texas Industrial Production Index is a measure of output in the state's manufacturing, mining and public utilities sectors. The index, which has been produced by the Dallas Fed since 1958, is based primarily on movements in hours worked and electric power usage in the separate sectors.

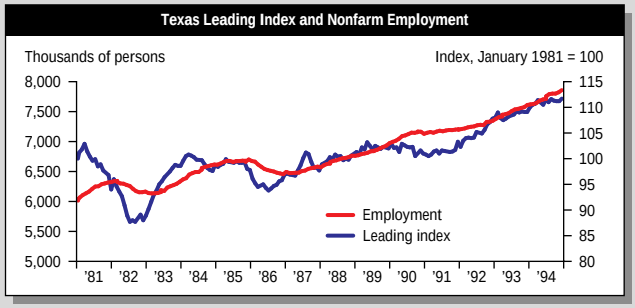
Texas Leading Index. The Texas Leading Index is designed to signal upcoming turning points in the Texas economy. For example, a prolonged decline in the index signals that a weakening of the state's economy is likely. The index comprises nine different indicators that tend to weaken or strengthen before similar changes in the state's economy.

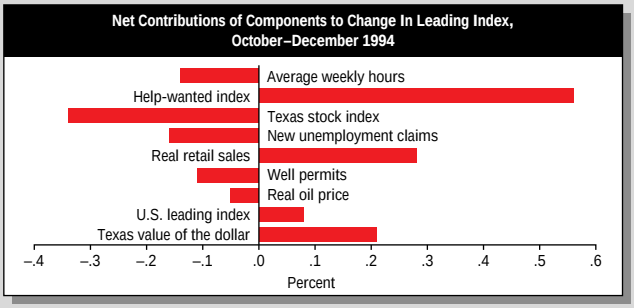
The components of the Texas Leading Index are the average weekly hours of production workers in manufacturing, an index of help-wanted advertising, initial claims for unemployment insurance, inflation-adjusted retail sales, an index of stock prices of companies based in Texas, the inflation-adjusted price of West Texas Intermediate crude oil, the number of permits issued to drill oil and gas wells, the U.S. leading index and a Texas export-weighted value of the dollar. Changes in the component series are weighted and then added together to get the change in the leading index. New unemployment claims and the Texas value of the dollar contribute negatively to the index, so that a rise in these variables results in a decline in their net contribution to the change in the index.

—Keith R. Phillips









REGIONAL ECONOMIC INDICATORS

			Texas Employment					Total Nonfarm Employment		
	Leading Index	TIPI Total	Mining	Construction	Manufacturing	Government	Private Service-Producing	Texas	Louisiana	New Mexico
12/94	111.7	111.820	158.5	398.1	1,006.6	1,440.2	4,855.3	7,858.7	1,717.3	669.5
11/94	111.2	111.637	159.8	393.9	1,003.8	1,433.7	4,831.4	7,822.6	1,712.5	668.0
10/94	111.2	112.703	160.6	389.9	1,002.4	1,430.7	4,817.2	7,800.8	1,708.0	663.1
9/94	111.3	113.116	162.8	388.7	1,001.6	1,432.6	4,814.9	7,800.6	1,700.5	658.6
8/94	111.6	113.311	161.5	384.0	999.9	1,438.3	4,808.3	7,792.0	1,686.8	657.4
7/94	111.0	113.262	160.9	382.8	998.4	1,424.2	4,791.0	7,757.3	1,678.7	658.2
6/94	111.5	113.091	160.3	380.1	999.0	1,407.8	4,766.2	7,713.4	1,671.6	654.5
5/94	110.5	112.866	161.0	375.7	999.1	1,411.0	4,756.6	7,703.4	1,668.4	651.7
4/94	111.4	112.937	163.2	375.2	998.4	1,405.3	4,741.7	7,683.8	1,665.1	648.8
3/94	110.7	112.031	163.9	374.1	997.3	1,400.3	4,712.4	7,648.0	1,657.1	643.8
2/94	110.5	111.582	164.9	372.3	994.4	1,400.7	4,695.0	7,627.3	1,647.1	642.6
1/94	110.0	111.166	165.7	374.0	993.1	1,398.0	4,690.5	7,621.3	1,640.7	640.9

FURTHER INFORMATION ON THE DATA

For more information on employment data, see "Reassessing Texas Employment Growth" (*Southwest Economy*, July/August 1993). For more information on TIPI, see "The Texas Industrial Production Index" (Dallas Fed *Economic Review*, November 1989). For more information on the Texas Leading Index and its components, see "The Texas Index of Leading Indicators: A Revision and Further Evaluation" (Dallas Fed *Economic Review*, July 1990).

On-line economic data and articles are available on the Dallas Fed's electronic bulletin board, FEDFLASH (214-922-5199 or 800-333-1953).